IN THE CLAIMS:

1-11. CANCELLED

12. (Currently Amended) A network communications system linking an IMD to an information node via a secure medical information exchange network, comprising:

at least one key source in data communication with ~~the~~ an IMD interface device and with the information node for transmitting an encryption key to the IMD interface device and a decryption key to ~~the~~ an expert-data center;

an encryption engine residing within an IMD interface device for performing data modification information using the encryption key;

data communication means between the IMD interface and the medical information exchange network;

and a decryption engine residing within the information node having means to decrypt the encrypted sensitive information using the decryption key.

13. (Original) The network communications system of claim 12, wherein the information node is a clinician computer.

14. (Original) The network communications system of claim 12, wherein the information node is a remote expert system server.

15. (Original) The network communication system of claim 12, wherein the encryption engine is adapted to recognize non-real time data for encryption.

16. (Currently Amended) A network communications system for transmitting IMD instruction information from an information node to an IMD via a secure medical information exchange network, comprising:

at least one key source in data communication with ~~thean~~ IMD interface device and with the information node for transmitting a decryption key to the IMD interface device and a encryption key to the information node;

data communication means between the IMD interface and the medical information exchange network;

an encryption engine residing within the information node having means for performing data modification of IMD instruction information; and

a decryption engine residing within an IMD interface device ~~for performing data modification information~~ for performing data integrity confirmation.

17. (Currently Amended) The network communications system of claim 16, wherein the at least on key sources ~~comprises hardware devices having~~ keys hard coded into the IMD, the ~~and~~ IMD interface ~~pair~~, and a stored key source residing on the information node, respectively.

18. (Original) The network communications system of claim 16, wherein data transmitted from the information node comprises native data with an appended data integrity information.

19. (Original) The network communications system of claim 18, wherein the native data comprises IMD instructions.

20. (Original) The network communications system of claim 18, wherein the native data comprises IMD software upgrades.

21. (Original) The system of claim 12 or 16, wherein the IMD interface is in communication with an IMD implanted in a patient.

22. (Currently Amended) A computerized method of securely transferring data, including sensitive information, between an IMD and a remote information node over a computer network, the method comprising:

generating an encryption key for distribution to an IMD interface device;

generating a decryption key for distribution to the information node;

transferring data from the IMD to the IMD interface device;

encrypting the sensitive information, transmitted from the IMD and residing on the IMD interface device, with the encryption key;

transferring the encrypted sensitive information from the IMD interface device to the remote information node, and

decrypting the encrypted information residing on the remote information node with the decryption key.

23. (Currently amended) The method of claim ~~1~~ 22 wherein said data ~~to be transmitted~~ includes one of and a combination of physiological data, cardiac data, neurological data, patient data, therapy data, diagnostic data and device data.

24. (Currently Amended) The method of claim 23 wherein said data ~~to be transmitted~~ is transferred based on differentiated encryption scheme.